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Version 1.0C

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Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilieur du Canada.

About the Manual

The manual consists of the following:

Chapter 1

Introducing the Motherboard

Describes features of the motherboard.

Go to ⇨ page 1

Chapter 2

Installing the Motherboard

Describes installation of motherboard components.

Go to ⇨ page 7

Chapter 3

Using BIOS

Provides information on using the BIOS Setup Utility.

Go to ⇨ page 25

Chapter 4

Using the Motherboard Software

Describes the motherboard software

Go to ⇨ page 57

Chapter 5

Trouble Shooting

Provides basic trouble shooting tips

Go to ⇨ page 61

TABLE OF CONTENTS

Preface i

Chapter 1 1

Introducing the Motherboard 1

Introduction....1
Feature....2
Specifications....4
Motherboard Components....5

Chapter 2 7

Installing the Motherboard 7

Safety Precautions....7
Choosing a Computer Case....7
Installing the Motherboard in a Case....7
Checking Jumper Settings....8
Setting Jumpers....8
Checking Jumper Settings....9
Jumper Settings....9
Installing Hardware....10
Installing the Processor....10
Installing Memory Modules....12
Expansion Slots....14
Connecting Optional Devices....16
Installing a SATA Hard Drive....19
Connecting I/O Devices....20
Connecting Case Components....21
Front Panel Header....24

Chapter 3 25

Using BIOS 25

About the Setup Utility....25
The Standard Configuration....25
Entering the Setup Utility....25
Resetting the Default CMOS Values....26
Using BIOS....26
BIOS Navigation Key....27
Main Menu....28
Advanced Menu....29

Chipset Menu.....39
M.I.B III(MB Intelligent BIOS III) Menu.....46
Boot Menu.....49
Security Menu.....51
Exit Menu.....54
Updating the BIOS.....55

Chapter 4 **57**
Using the Motherboard Software **57**
Auto-installing under Windows XP/7/8.....57
Running Setup.....57
Manual Installation.....59
ECS Utility Software.....59

Chapter 5 **61**
Trouble Shooting **61**
Start up problems during assembly.....61
Start up problems after prolong use.....62
Maintenance and care tips.....62
Basic Troubleshooting Flowchart.....63

Chapter 1
Introducing the Motherboard

Introduction

Thank you for choosing the **H61H2-M12** motherboard. This motherboard is a high performance, enhanced function motherboard designed to support the LGA1155 socket for the latest Intel® Core™ Family/Pentium®/Celeron® processors*1 for high-end business or personal desktop markets.

This motherboard is based on Intel® H61 Express Chipset for best desktop platform solution. H61 is a single-chip, highly integrated, high performance Hyper-Threading peripheral controller, unmatched by any other single chip-device controller. This motherboard supports up to 16 GB of system memory with dual channel DDR3 1600*2/1333/1066 SDRAM. High resolution graphics via PCI Express x16 slot, intended for Graphics Interface. In addition, two PCI Express slots are supported. It implements an EHCI (Enhanced Host Controller Interface) compliant interface that provides eight USB 2.0 ports (four USB 2.0 ports at the back panel and two USB 2.0 headers support additional four USB 2.0 ports).

The motherboard is equipped with advanced full set of I/O ports in the rear panel, including PS/2 mouse and PS/2 keyboard connectors, one D_sub (VGA) port, one LAN port, four USB 2.0 ports, and audio jacks for microphone, line-in and line-out.

In addition, this motherboard supports four SATA 3.0Gb/s connectors for expansion.

**1 When accommodating Intel 3rd Generation CPU, the PCI Express 16X slot can run at Gen3 speed, which accelerates on 32GB/s rate that effectively delivers double of PCI Express Gen2 speed.*

**2 The 3rd Generation CPU required.*

Feature

Processor

The motherboard uses an LGA1155 type of socket that carries the following features:

- Accommodates the latest Intel® Core™ Family/Pentium®/Celeron® processors in the LGA1155 package
- Supports "Hyper-Threading" technology CPU
- One PCI Express x16 slot
- Supports 22nm & 32nm Intel® Core™ micro-architecture
- DMI 5.0GT/s

"Hyper-Threading" technology enables the operating system into thinking it's hooked up to two processors, allowing two threads to be run in parallel, both on separate "logical" processors within the same physical processor.

Chipset

The Intel H61 Chipset is a single-chip with proven reliability and performance.

- Support two PCI Express x1 slots
- Integrated four SATA 3.0 Gb/s Host Controller
- Eight USB 2.0 ports supported
- Serial Peripheral Interface (SPI) support
- Integrated Graphics Support with PAVP 1.5
- Intel® High Definition Audio Controller

Memory

- Supports DDR3 1600*/1333/1066 DDR3 SDRAM with Dual-channel architecture
- Accommodates two unbuffered DIMMs
- Up to 8 GB per DIMM with maximum memory size up to 16 GB

* *The 3rd Generation CPU required.*

Audio

- 5.1+2 Channel High Definition Audio Codec
- Meets Microsoft WLP3.x (Windows Logo Program) audio requirements
- All DACs supports 44.1k/48k/96k/192kHz sample rate
- Software selectable 2.5V/3.2V/4.0V VREFOUT
- Direct Sound 3D. compatible
- Power Support: Digital: 3.3V; Analog: 5.0V

Onboard LAN (Optional)

The onboard LAN provides the following features:

• Supports PCI Express™ 1.1 • Integrated 10/100/1000 transceiver • Wake-on-LAN and remote wake-up support
• Supports PCI Express™ 1.1 • Integrated 10/100 transceiver • Wake-on-LAN and remote wake-up support

Expansion Options

The motherboard comes with the following expansion options:

- One PCI Express x16 slot for Graphic Interface
- Two PCI Express x1 slots
- Four SATA 3.0 Gb/s connectors

Integrated I/O

The motherboard has a full set of I/O ports and connectors:

- One LAN port
- One D-sub (VGA) port
- Four USB 2.0 ports
- One PS/2 keyboard and PS/2 mouse connectors
- Audio jacks for microphone, line-in and 6-ch line-out

BIOS Firmware

This motherboard uses AMI BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters
- CPU and memory timing
- Graphic parameters

The firmware can also be used to set parameters for different processor clock speeds.

1. Some hardware specifications and software items are subject to change without prior notice.

2. Due to chipset limitation, we recommend that motherboard be operated in the ambiance between 0 and 50 ° C.

Specifications

CPU	• LGA1155 socket for the latest Intel® Core™ Family/Pentium®/ Celeron® processors • DMI 5.0GT/s
Chipset	• Intel® H61 Chipset
Memory	• Dual-channel DDR3 memory architecture • 2 x 240-pin DDR3 DIMM sockets support up to 16 GB • Supports 1600*/1333/1066 DDR3 SDRAM * *The 3rd Generation CPU required.*
Expansion Slots	• 1 x PCI Express x16 slot • 2 x PCI Express x1 slots
Storage	• Supported by Intel® H61 Express Chipset 4 x Serial ATA 3.0 Gb/s devices
Audio	• VIA VT1705CE 6-Ch HD audio CODEC • Compliant with HD audio specification
LAN	• Atheros AR8152-B 10/100 Lan • Atheros AR8151-B Gigabit Lan (Optional)
Rear Panel I/O	• 4 x USB 2.0 ports • 1 x D-sub (VGA) • 1 x RJ45 LAN connector • 1 x Audio port (Line in, microphone in, line out) • 1 x PS/2 keyboard & PS/2 mouse connectors
Internal I/O Connectors & Headers	• 1 x 24-pin ATX Power Supply connector • 1 x 4-pin ATX Power Supply connector • 1 x 4-pin CPU_FAN connector • 1 x 3-pin SYS_FAN connector • 2 x USB 2.0 headers support additional four USB 2.0 ports • 4 x Serial ATA 3.0 Gb/s connectors • 1 x COM header • 1 x Case Open header • 1 x ME_UNLOCK header • 1 x Speaker header • 1 x Clear CMOS header • 1 x Front Panel switch/LED header • 1 x Front Panel audio header • 1 x LDC header
System BIOS	• AMI BIOS with 32Mb SPI Flash ROM • Support Multi-language BIOS Utility • Support ECS M.I.B III Utility
AP support	• Support eBLU/eDLU/eSF (*Warning: Microsoft .NET Framework 3.5 is required*)
Form Factor	• Mini-ATX Size, 225mm x 170mm

Motherboard Components

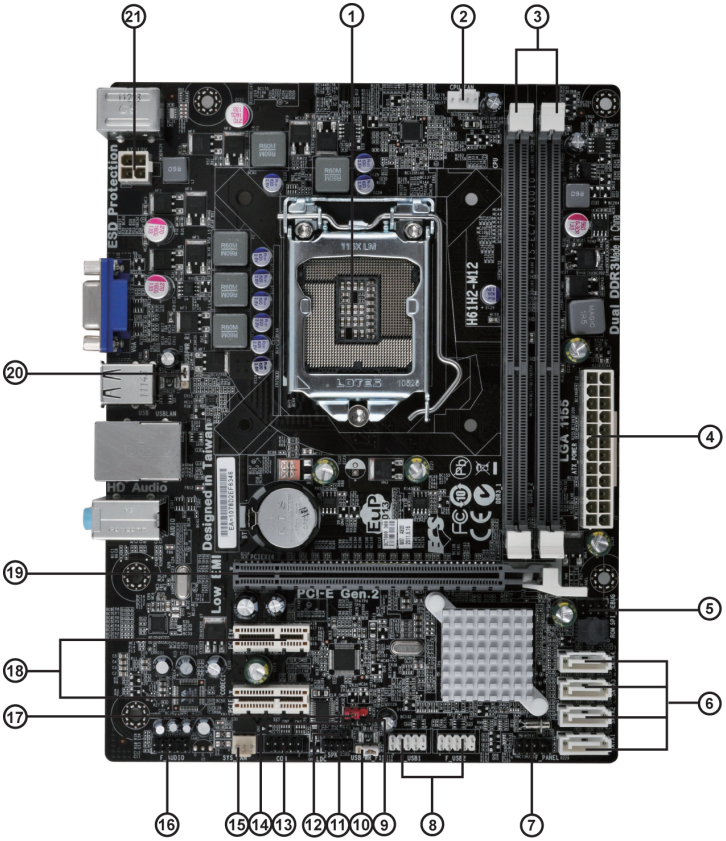


Table of Motherboard Components

LABEL	COMPONENTS
1. CPU Socket	LGA1155 socket for the latest Intel® Core™ Family /Pentium®/Celeron® processors
2. CPU_FAN	4-pin CPU cooling fan connector
3. DDR3_1~2	240-pin DDR3 SDRAM slots
4. ATX_POWER	Standard 24-pin ATX power connector
5. SPI_DEBUG	SPI debug header-for factory use only
6. SATA1~4	Serial ATA 3.0 Gb/s connectors
7. F_PANEL	Front panel switch/LED header
8. F_USB1~2	Front panel USB 2.0 headers
9. CASE	CASE open header
10. USBPWR_F1	Front Panel USB power select jumper
11. LDC	Debug card header
12. SPK	Speaker header
13. COM	Onboard serial port header
14. ME_UNLOCK	ME unlock header-for factory use only
15. SYS_FAN	3-pin system cooling fan connector
16. F_AUDIO	Front panel audio header
17. CLR_CMOS	Clear CMOS jumper
18. PCIE1~2	PCI Express x1 slot
19. PCIEX16	PCI Express slot for graphics interface
20. USBPWR_R1	Rear USB/PS2 power select jumper
21. ATX12V	4-pin +12V power connector

This concludes Chapter 1. The next chapter explains how to install the motherboard.

Chapter 2
Installing the Motherboard

Safety Precautions

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the Micro-ATX system case. Some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

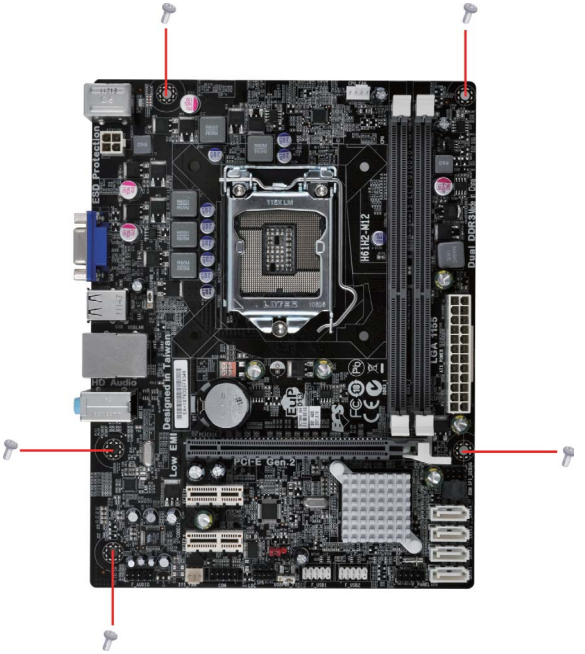
This motherboard carries a Micro-ATX form factor of 225 x 170 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case.

Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.



Do not over-tighten the screws as this can stress the motherboard.

Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

Setting Jumpers

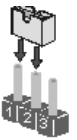
Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.

SHORT

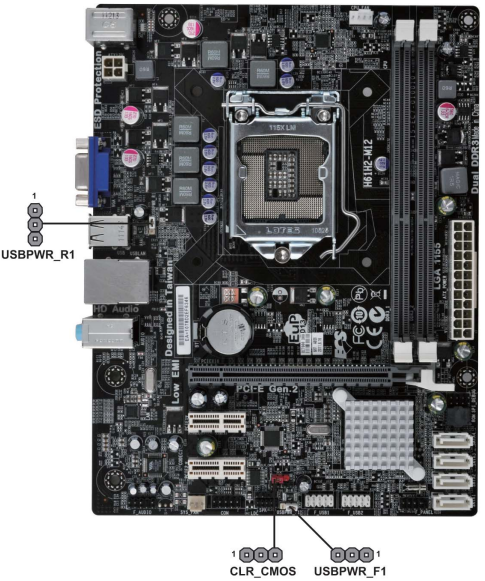
OPEN

This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT.



Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.



Jumper Settings

Jumper	Type	Description	Setting (default)	
CLR_CMOS	3-pin	Clear CMOS	1-2: NORMAL 2-3: CLEAR Before clearing the CMOS, make sure to turn off the system.	1 **CLR_CMOS**
USBPWR_F1	3-pin	Front Panel USB Power Select Jumper	1-2: VCC 2-3: DIMM_5VDUAL	1 **USBPWR_F1**
USBPWR_R1	3-pin	Rear USB PS/2 Power Select Jumper	1-2: VCC 2-3: DIMM_5VDUAL	1 **USBPWR_R1**

1.To avoid the system instability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Default Settings" and then "Save and Exit Setup".

2.Make sure the power supply provides enough DIMM_5VDUAL voltage before selecting the DIMM_5VDUAL function.

3.It is required that users place the USBPWR_F1 & USBPWR_R1 cap onto 2-3 pin rather than 1-2 pin as default if you want to wake up the computer by USB/PS2 KB/Mouse.

Installing Hardware

Installing the Processor

Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.

On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.

Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.

Before installing the Processor

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.

Warning:

1. Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.

2. Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the motherboard or other hardware components.

This motherboard has an LGA1155 socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

Fail-Safe Procedures for Over-clocking

When end-users encounter failure after attempting over-clocking, please take the following steps to recover from it.

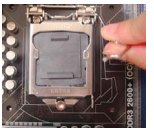
1. Shut down the computer.
2. Press and hold the “Page Up Key (PgUp)” of the keyboard, and then boot the PC up.
3. Two seconds after the PC boots up, release the “Page Up Key (PgUp)”.
4. The BIOS returns to the default setting by itself.

CPU Installation Procedure

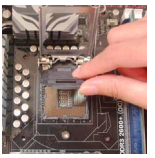
The following illustration shows CPU installation components.

A. Disengaging of the Load Lever
   · Press the hook of lever down and pull it to the right side to release it from retention tab.

B. Opening of the Load Plate
   · Lift the tail of the load lever.
   · Rotate the load plate to fully open position.



C. Removing the Cap
   · Be careful not to touch the contact at any time.



D. Inserting the Package
   · Grasp the package. Ensure to grasp on the edge of the substrate.
   · Make sure pin 1 indicator is on your bottom-left side.
   · Aim at the socket and place the package carefully into the socket by purely vertical motion.

E. Closing the Load Plate
   · Rotate the load plate onto the package IHS (Intergraded Heat Spreader).
   · Engage the load lever while pressing down lightly onto the load plate.
   · Secure the load lever with the hook under retention tab.

F. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.

G. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for more detail installation procedure.

1. To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/ heatsink supplied. The form and size of fan/heatsink may also vary.

2. DO NOT remove the CPU cap from the socket before installing a CPU.

3. Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA1155 socket.

Installing Memory Modules

This motherboard accommodates two memory modules. It can support two 240-pin DDR3 1600*/1333/1066. The total memory capacity is 16 GB.

DDR3 SDRAM memory module table

Memory module	Memory Bus
DDR3 1066	*533 MHz*
DDR3 1333	*667 MHz*
DDR3 1600	*800 MHz*

* *The 3rd Generation CPU required.*

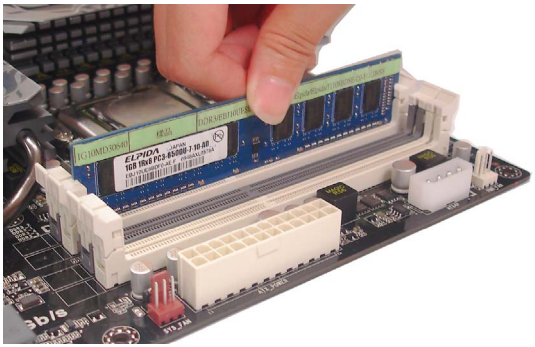
You must install at least one module in any of the two slots.

Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Installation Procedure

Refer to the following to install the memory modules.

1 This motherboard supports unbuffered DDR3 SDRAM .
2 Push the latches on each side of the DIMM slot down.
3 Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
4 Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
5 Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
6 Install any remaining DIMM modules.

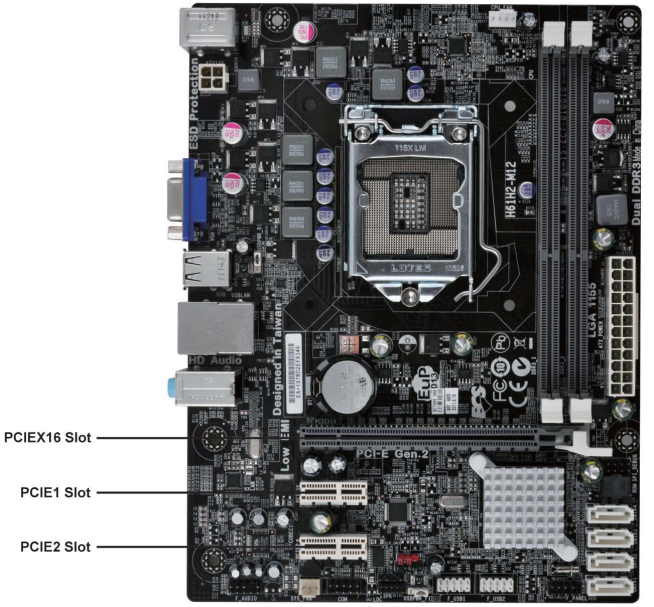


** For reference only*

Expansion Slots

Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



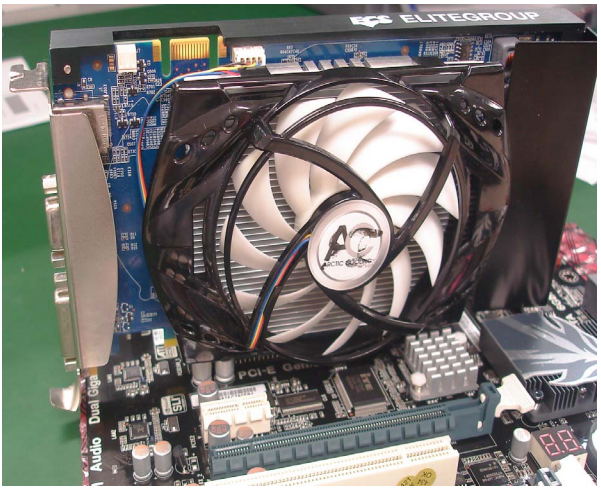
PCIEX16 Slot The PCI Express x16 slot is used to install an external PCI Express graphics card.

PCIE1~2 Slots The PCI Express x1 slots are fully compliant to the PCI Express Base Specification revision 2.0.

Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

Follow these instructions to install an add-on card:

1 Remove a blanking plate from the system case corresponding to the slot you are going to use.
2 Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
3 Secure the metal bracket of the card to the system case with a screw.



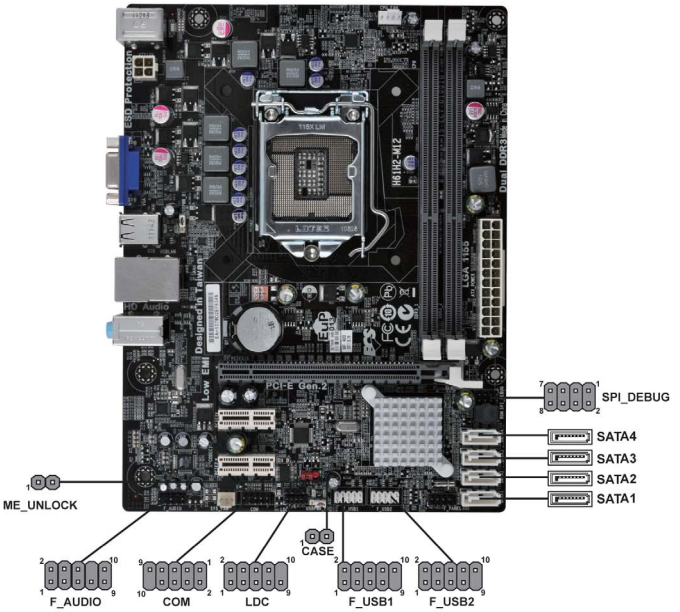
** For reference only*

1. For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

2. The onboard PCI interface does not support 64-bit SCSI cards.

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



F_AUDIO: Front Panel Audio header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name	Pin	Signal Name
1	PORT 1L	2	AUD_GND
3	PORT 1R	4	PRESENCE#
5	PORT 2R	6	SENSE1_RETURN
7	SENSE_SEND	8	KEY
9	PORT 2L	10	SENSE2_RETURN

SATA1~4: Serial ATA connectors

These connectors are used to support the Serial ATA 3.0Gb/s device, simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.

Pin	Signal Name	Pin	Signal Name
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground	-	-

F_USB1~2: Front Panel USB 2.0 headers

The motherboard has two USB 2.0 headers supporting four USB 2.0 ports. Additionally, some computer cases have USB 2.0 ports at the front of the case. If you have this kind of case, use auxiliary USB 2.0 connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	USBPWR	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	NC	Not connected

Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.

CASE: Chassis Intrusion Detect Header

This detects if the chassis cover has been removed. This function needs a chassis equipped with instrusion detection switch and needs to be enabled in BIOS.

Pin 1-2	Function
Short	Chassis cover is removed
Open	Chassis cover is closed

ME_UNLOCK: ME Unlock Header

Pin 1-2	Function
Short	Unlock
Open	Lock

COM: Onboard serial port header

Connect a serial port extension bracket to this header to add a serial port to your system.

Pin	Signal Name	Function
1	DCDB	Data Carrier Detect
2	SINB	Serial Input
3	SOUTB	UART B Serial Output
4	DTRB	UART B Data Terminal Ready
5	GND	Ground
6	DSRB	Data Set Ready
7	RTSB	RART B Request to Send
8	CTSB	Clear to Send
9	RI	Ring Indicator
10	Key	No pin

Installing a SATA Hard Drive

This section describes how to install a SATA Hard Drive.

About SATA Connectors

Your motherboard features four SATA connectors supporting a total of four drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

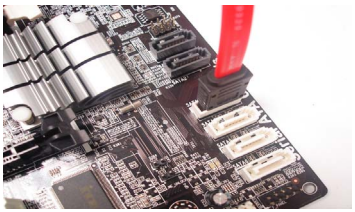
To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with a SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.

SATA cable (optional)

SATA power cable (optional)

Refer to the illustration below for proper installation:

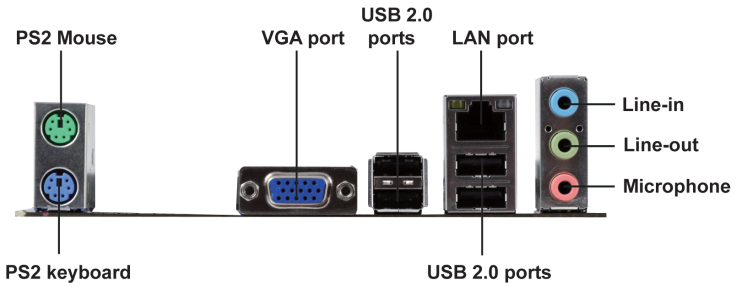
1 Attach either cable end to the connector on the motherboard.
2 Attach the other cable end to the SATA hard drive.
3 Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.



** For reference only*

Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:

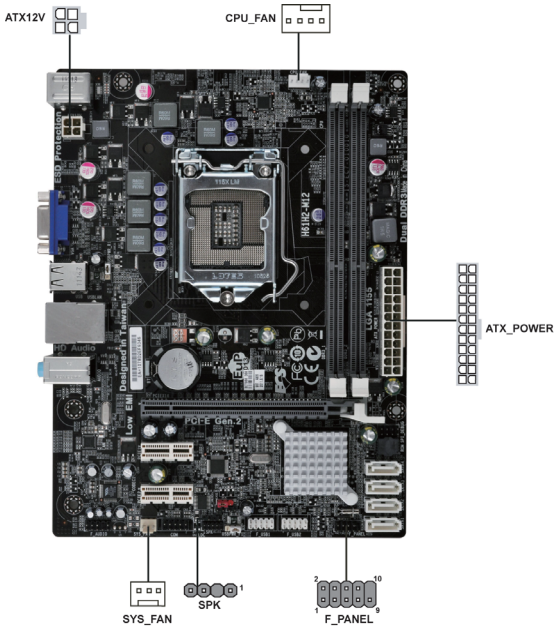


PS2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
VGA Port	Connect your monitor to the VGA port.
LAN Port	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
USB 2.0 Ports	Use the USB 2.0 ports to connect USB 2.0 devices.
Audio Ports	Use the three audio ports to connect audio devices. The first jack is for stereo line-in singal. The second jack is for stereo line-out singal. The third jack is for microphone.

Connecting Case Components

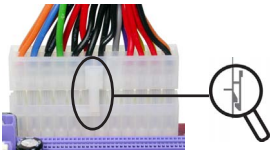
After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

1 Connect the CPU cooling fan cable to **CPU_FAN**.
2 Connect the standard power supply connector to **ATX_POWER**.
3 Connect the case switches and indicator LEDs to the **F_PANEL**.
4 Connect the system cooling fan connector to **SYS_FAN**.
5 Connect the auxiliary case power supply connector to **ATX12V**.
6 Connect the case speaker cable to **SPK**.



Connecting 24-pin power cable

The ATX 24-pin connector allows you to connect to ATX v2.x power supply.

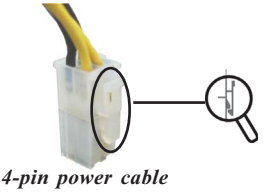


24-pin power cable

With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable and the ATX match perfectly.

Connecting 4-pin power cable

The ATX12V4P power connector is used to provide power to the CPU.



4-pin power cable

When installing 4-pin power cable, the latches of power cable and the ATX12V4P match perfectly.

CPU_FAN: CPU cooling FAN Power Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	PWM	PWM

Users please note that the fan connector supports the CPU cooling fan of 1.1A ~ 2.2A (26.4W max) at +12V.

SYS_FAN: System Cooling FAN Power Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

ATX_POWER: ATX 24-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Ground	15	Ground
4	+5V	16	PS_ON
5	Ground	17	Ground
6	+5V	18	Ground
7	Ground	19	Ground
8	PWRGD	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	Ground

ATX12V: ATX 12V Power Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

SPK: Internal speaker

Pin	Signal Name
1	VCC
2	Key
3	GND
4	Signal

Front Panel Header

The front panel header (F_PANEL) provides a standard set of switch and LED headers commonly found on ATX or Micro ATX cases. Refer to the table below for information:

F_PANEL

Pin	Signal	Function	Pin	Signal	Function
1	HD_LED_P	Hard disk LED(+)	2	FP PWR/SLP	*MSG LED(+)
3	HD_LED_N	Hard disk LED(-)	4	FP PWR/SLP	*MSG LED(-)
5	RST_SW_N	Reset Switch(-)	6	PWR_SW_P	Power Switch(+)
7	RST_SW_P	Reset Switch(+)	8	PWR_SW_N	Power Switch(-)
9	RSVD	Reserved	10	Key	No pin

** MSG LED (dual color or single color)*

Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

Power/Sleep/Message waiting LED

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

Reset Switch

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

This concludes Chapter 2. The next chapter covers the BIOS.

Chapter 3
Using BIOS

About the Setup Utility

The computer uses the latest "American Megatrends Inc." BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

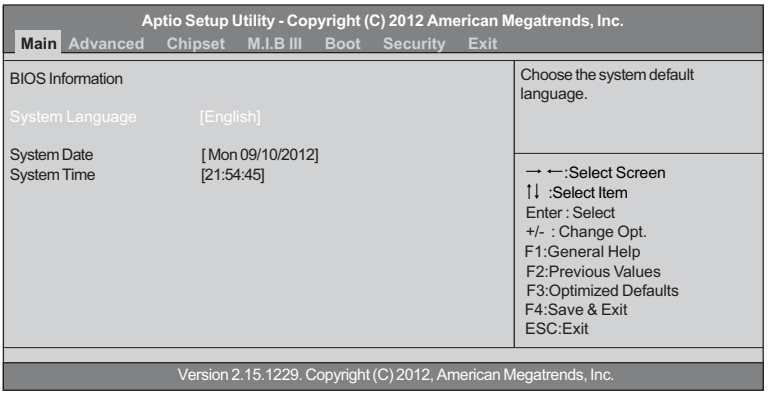
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Press the delete key to access BIOS Setup Utility.



Resetting the Default CMOS Values

When powering on for the first time, the POST screen may show a "CMOS Settings Wrong" message. This standard message will appear following a clear CMOS data at factory by the manufacturer. You simply need to Load Default Settings to reset the default CMOS values.

Note: Changes to system hardware such as different CPU, memories, etc. may also trigger this message.

American Megatrends
H61H2-M12 Release 05/13/2011
Version 2.02.1205. Copyright (C) 2010 American Megatrends, Inc.
Press <F7> to enter BBS POPUP
Press <DEL> or <F2> to enter setup.
CMOS Setting Wrong

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ►) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ▶.

The default BIOS setting for this motherboard apply for most conditions with optimum performance. We do not suggest users change the default values in the BIOS setup and take no responsibility to any damage caused by changing the BIOS settings.

BIOS Navigation Keys

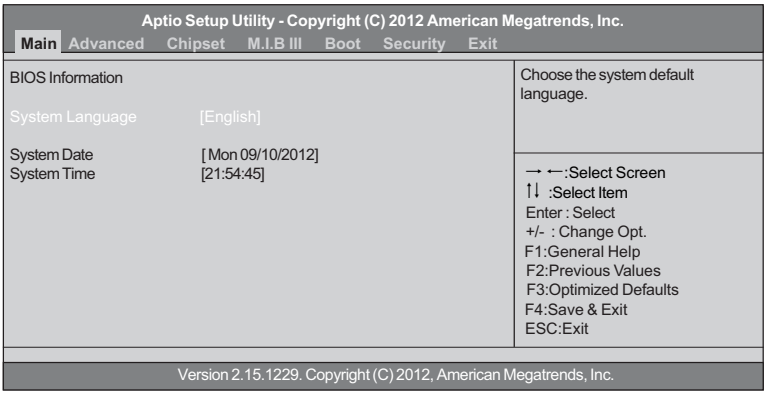
The BIOS navigation keys are listed below:

KEY	FUNCTION
ESC	Exits the current menu
↑↓→←	Scrolls through the items on a menu
+/-	Modifies the selected field's values
Enter	Select
F1	General Help
F2	Previous Value
F3	Optimized Defaults
F4	Save & Exit

For the purpose of better product maintenance, the manufacture reserves the right to change the BIOS items presented in this manual. The BIOS setup screens shown in this chapter are for reference only and may differ from the actual BIOS. Please visit the manufacture's website for updated manual.

Main Menu

When you enter the BIOS Setup program, the main menu appears, giving you an overview of the basic system information. Select an item and press <Enter> to display the submenu.



System Language

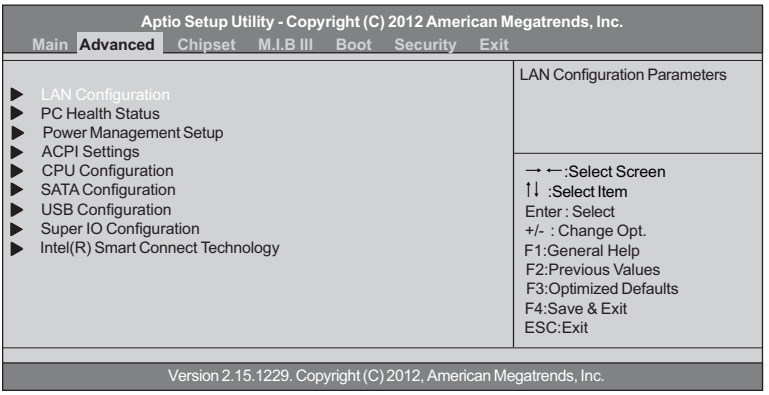
This item is used to set system language.

System Date & Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

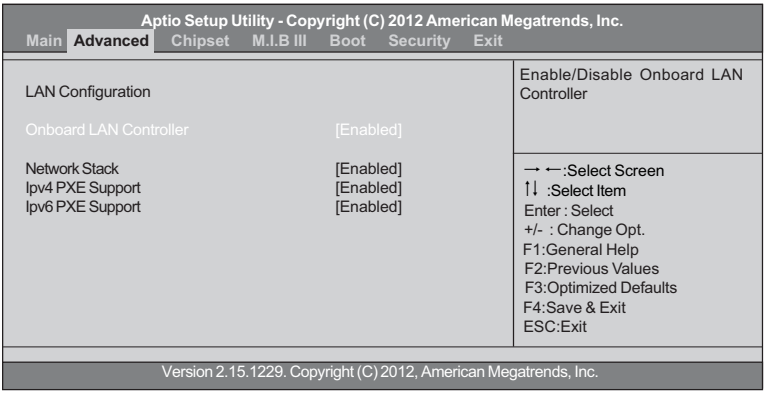
Advanced Menu

The Advanced menu items allow you to change the settings for the CPU and other system.



LAN Configuration

The item in the menu shows the LAN-related information that the BIOS automatically detects.



Onboard LAN Controller (Enabled)

Use this item to enable or disable the Onboard LAN.

Network stack (Enabled)

Use this item to enable or disable UEFI network stack.

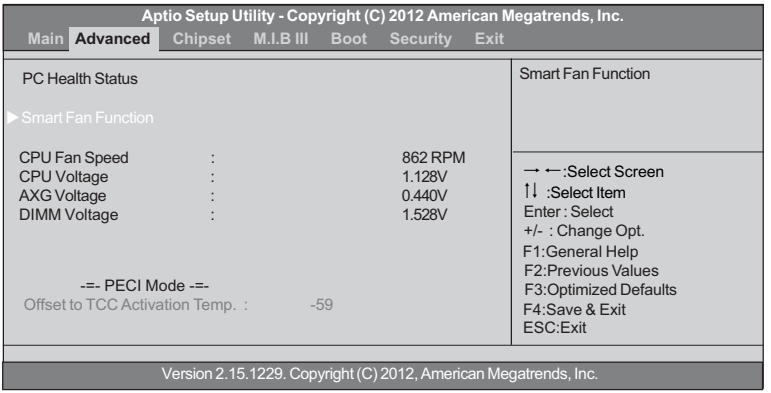
Ipv4/6 PXE Support (Enabled)

Use these items to enable Ipv4/6 PXE Boot Support. If disabled Ipv4/6 PXE, boot option will not be created.

Press <Esc> to return to the Advanced Menu page.

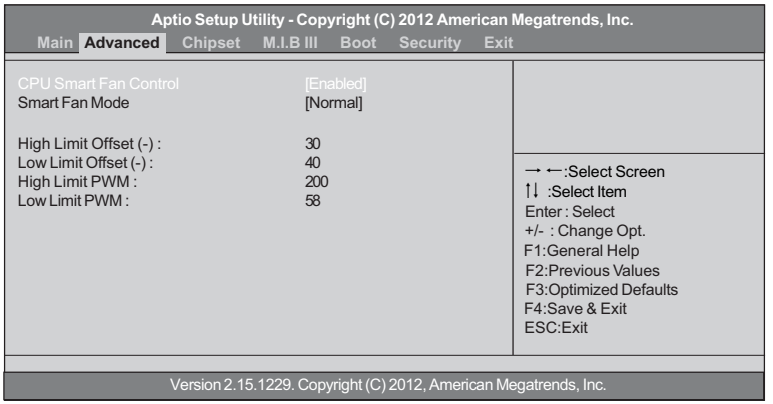
PC Health Status

On motherboards support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
PC Health Status
► Smart Fan Function
CPU Fan Speed : 862 RPM
CPU Voltage : 1.128V
AXG Voltage : 0.440V
DIMM Voltage : 1.528V
-=- PECI Mode -=-
Offset to TCC Activation Temp. : -59
Smart Fan Function
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

►Smart Fan Function

Scroll to this item and press <Enter> to view the following screen:


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
CPU Smart Fan Control [Enabled]
Smart Fan Mode [Normal]
High Limit Offset (-) : 30
Low Limit Offset (-) : 40
High Limit PWM : 200
Low Limit PWM : 58
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

CPU Smart Fan Control (Enabled)

This item allows you to enable/disable the control of the CPU/system fan speed by changing the fan voltage.

Smart Fan Mode (Normal)

This item allows you to select the fan mode (Normal, Quiet, Silent or Manual) for a better operation environment. If you choose Normal mode, the fan speed will be auto adjusted depending on the CPU temperature. If you choose Quiet mode, the fan speed will be auto minimized for quiet environment. If you choose Silent mode, the fan speed will be auto restricted to make system more quietly. If you choose Manual mode, the fan speed will be adjust depending on users' parameters.

Press <Esc> to return to the PC Health Status page.

System Component Characteristics

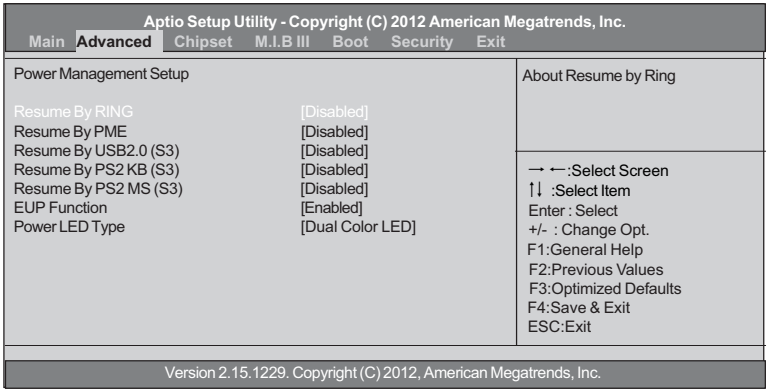
These items display the monitoring of the overall inboard hardware health events, such as CPU & DIMM voltage, CPU fan speed...etc.

- CPU Fan Speed
- CPU Voltage
- AXG Voltage
- DIMM Voltage

Press <Esc> to return to the Advanced Menu page.

Power Management Setup

This page sets up some parameters for system power management operation.


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
Power Management Setup
Resume By RING [Disabled]
Resume By PME [Disabled]
Resume By USB2.0 (S3) [Disabled]
Resume By PS2 KB (S3) [Disabled]
Resume By PS2 MS (S3) [Disabled]
EUP Function [Enabled]
Power LED Type [Dual Color LED]
About Resume by Ring
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

Resume By RING (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem. You must use an ATX power supply in order to use this feature.

Resume By PME (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the PCI Modem or PCI LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCI card.

Resume By USB2.0 (S3) (Disabled)

This item allows you to enable/disable the USB device wakeup function from S3 mode.

Resume By PS2 KB (S3) (Disabled)

This item enables or disables you to allow keyboard activity to awaken the system from power saving mode.

Resume By PS2 MS (S3) (Disabled)

This item enables or disables you to allow mouse activity to awaken the system from power saving mode.

EUP Support (Enabled)

This item allows user to enable or disable EUP support.

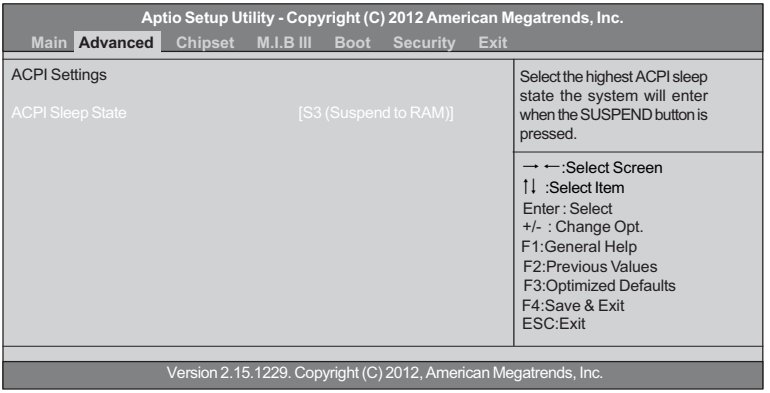
Power LED Type (Dual Color LED)

This item shows the type of the power LED.

Press <Esc> to return to the Advanced Menu page.

ACPI Setting

The item in the menu shows the highest ACPI sleep state when the system enters suspend.


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
ACPI Settings
ACPI Sleep State [S3 (Suspend to RAM)]
Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

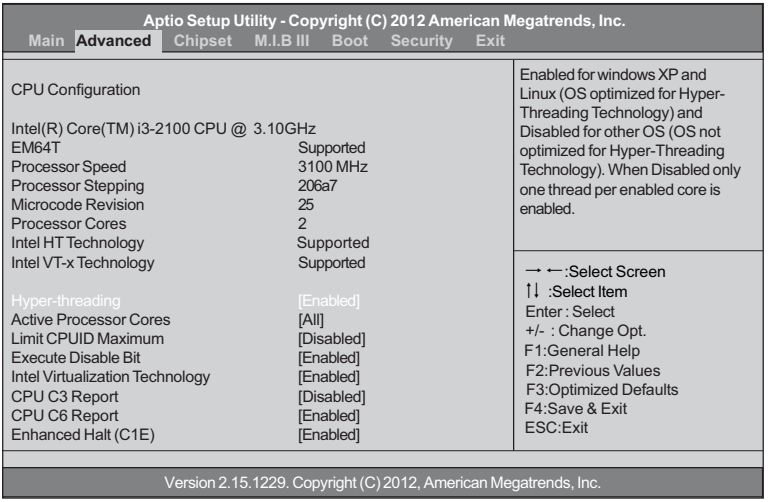
ACPI Sleep State (S3(Suspend to RAM))

This item allows user to enter the ACPI S3 (Suspend to RAM) Sleep State (default).

Press <Esc> to return to the Advanced Menu page.

CPU Configuration

Scroll to this item and press <Enter> to view the following screen:


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
CPU Configuration
Intel(R) Core(TM) i3-2100 CPU @ 3.10GHz
EM64T Supported
Processor Speed 3100 MHz
Processor Stepping 206a7
Microcode Revision 25
Processor Cores 2
Intel HT Technology Supported
Intel VT-x Technology Supported
Hyper-threading [Enabled]
Active Processor Cores [All]
Limit CPUID Maximum [Disabled]
Execute Disable Bit [Enabled]
Intel Virtualization Technology [Enabled]
CPU C3 Report [Disabled]
CPU C6 Report [Enabled]
Enhanced Halt (C1E) [Enabled]
Enabled for windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology). When Disabled only one thread per enabled core is enabled.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

Intel(R) Core(TM) i3-2100 CPU @ 3.10GHz

This is display-only field and diaplays the information of the CPU installed in your computer.

EM64T (Supported)

This item shows the computer supports EM64T.

Processor Speed (3100MHz)

This item shows the current processor speed.

Processor Stepping (206a7)

This item shows the processor stepping version.

Microcode Revision (25)

This item shows the Microcode version.

Processor Cores (2)

This item shows the core number of the processor.

Intel HT Technology (Supported)

This item shows that your computer supports Intel HT technology or not.

Intel VT-x Technology (Supported)

This item shows that your computer supports Intel VT-x technology or not.

Hyper-threading (Enabled)

This item is only available when the chipset supports Hyper-threading and you are using a Hyper-threading CPU.

Limit CPUID Maximum (Disabled)

Use this item to enable or disable the maximum CPUID value limit. When supports Prescott and LGA775 CPUs, enables this to prevent the system from "rebooting" when trying to install Windows NT 4.0.

Excute Disable Bit (Enabled)

This item allows the processor to classify areas in memory by where application code can execute and where it cannot. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage or worm propagation. Replacing older computers with Execute Disable Bit enabled systems can halt worm attacks, reducing the need for virus related repair.

Intel Virtualization Technology (Enabled)

When disabled, a VMM cannot utilize the additional hardware capabilities provided by Vandor Pool Technology.

CPU C3 Report (Disabled)

Use this item to enable or disable CPU C3 (ACPI C2) report to OS.

CPU C6 Report (Enabled)

Use this item to enable or disable CPU C6 (ACPI C3) report to OS.

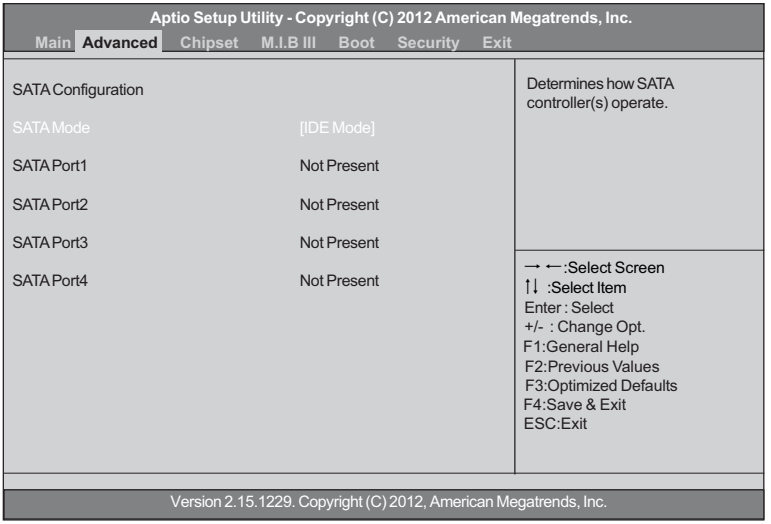
Enhanced Halt (C1E) (Enabled)

Use this item to enable the CPU energy-saving function when the system is not running.

Press <Esc> to return to the Advanced Menu page.

SATA Configuration

Use this item to show the mode of serial SATA configuration options.


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
SATA Configuration
SATA Mode [IDE Mode]
SATA Port1 Not Present
SATA Port2 Not Present
SATA Port3 Not Present
SATA Port4 Not Present
Determines how SATA controller(s) operate.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

SATA Mode (IDE Mode)

Use this item to select SATA mode.

SATA Port 1~4 (Not Present)

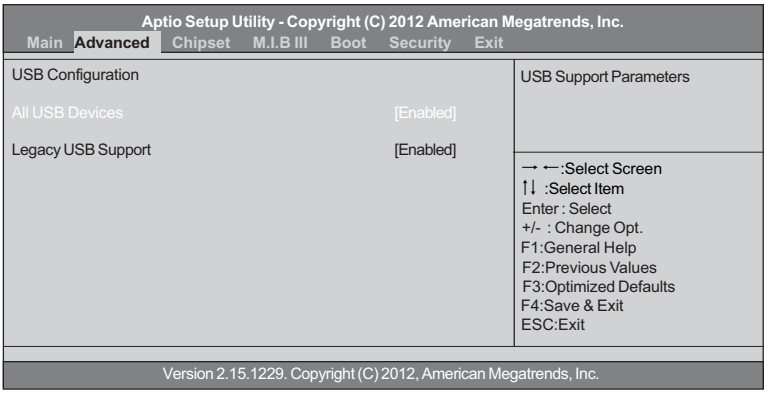
This motherboard supports four SATA channel and each channel allows one SATA device to be installed. Use these items to configure each device on the SATA channel.

H61 Chipset is not fully support AHCI Mode. HW support only.

Press <Esc> to return to the Advanced Menu page.

USB Configuration

Scroll to this item and press <Enter> to view the following screen:



All USB Devices (Enabled)

Use this item to enable or disable all USB devices.

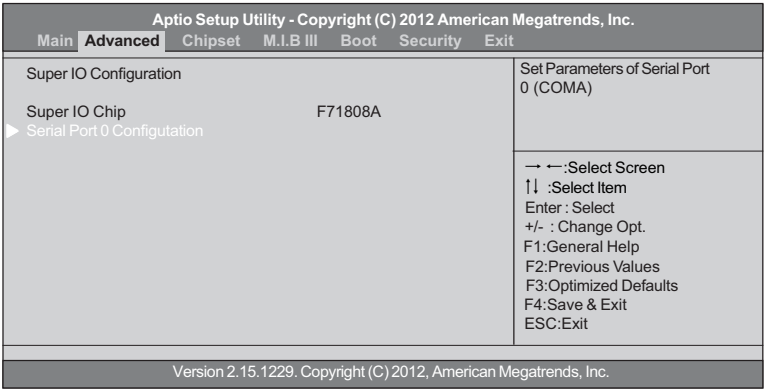
Legacy USB Support (Enabled)

Use this item to enable or disable support for legacy USB devices. Setting to Audio allows the system to detect the presence of the USB device at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

Press <Esc> to return to the Advanced Menu page.

Super IO Configuration

Use this item to show the information of the Super IO Configuration.

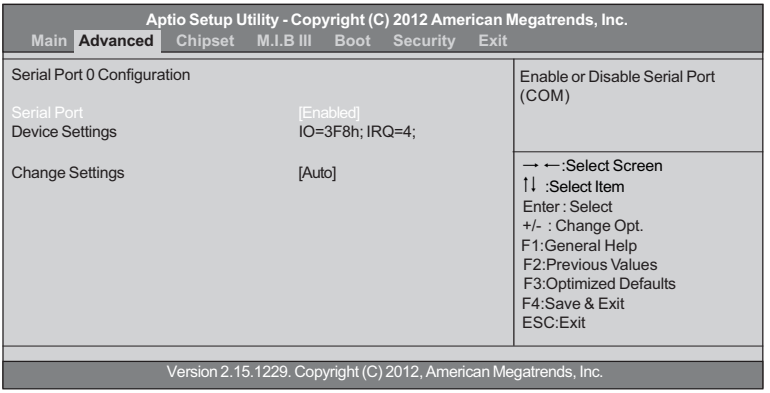

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
Super IO Configuration
Super IO Chip F71808A
Serial Port 0 Configutation
Set Parameters of Serial Port 0 (COMA)
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

Super IO Chip (F71808A)

This item shows the information of the super IO chip.

▶Serial Port 0 Configuration

Scroll to this item and press <Enter> to view the following screen:


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
Serial Port 0 Configuration
Serial Port [Enabled]
Device Settings IO=3F8h; IRQ=4;
Change Settings [Auto]
Enable or Disable Serial Port (COM)
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

Serial Port (Enabled)

This item allows you to enable or disable serial port.

Device Settings (IO=3F8h; IRQ=4)

This item shows the information of the device settings.

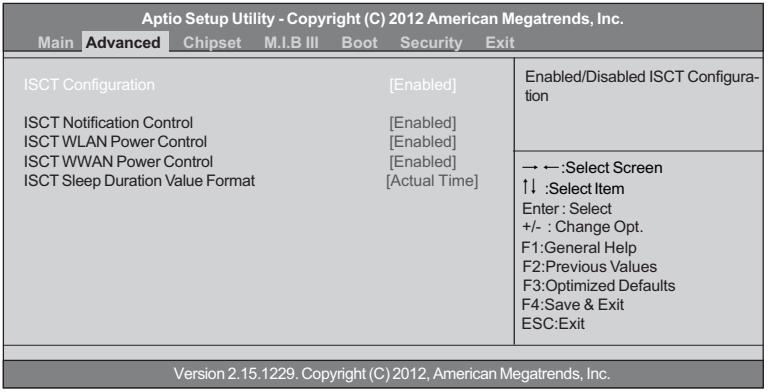
Change Settings (Auto)

Use this item to change device settings.

Press <Esc> to return to the Super IO Configuration page.

Intel(R) Smart Connect Technology

Use this item to show the information of Intel(R) Smart Connect Technology.


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
ISCT Configuration [Enabled]
ISCT Notification Control [Enabled]
ISCT WLAN Power Control [Enabled]
ISCT WWAN Power Control [Enabled]
ISCT Sleep Duration Value Format [Actual Time]
Enabled/Disabled ISCT Configuration
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

ISCT Configuration (Enabled)

Use this item to enable/disable ISCT Configuration.

ISCT Notification Control (Enabled)

Use this item to enable/disable ISCT Notification Control.

ISCT WLAN Power Control (Enabled)

Use this item to enable/disable ISCT WLAN Power Control.

ISCT WWAN Power Control (Enabled)

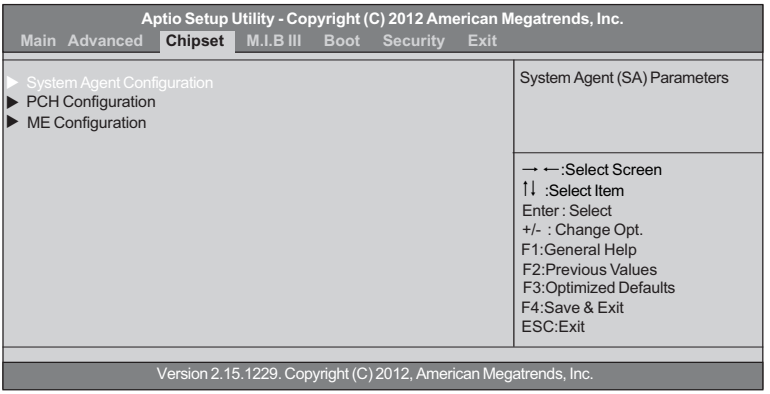
Use this item to enable/disable ISCT WWAN Power Control.

ISCT Sleep Duration Value Format (Actual Time)

Use this item to select actual time or duration in seconds. (ISCT 2.0)

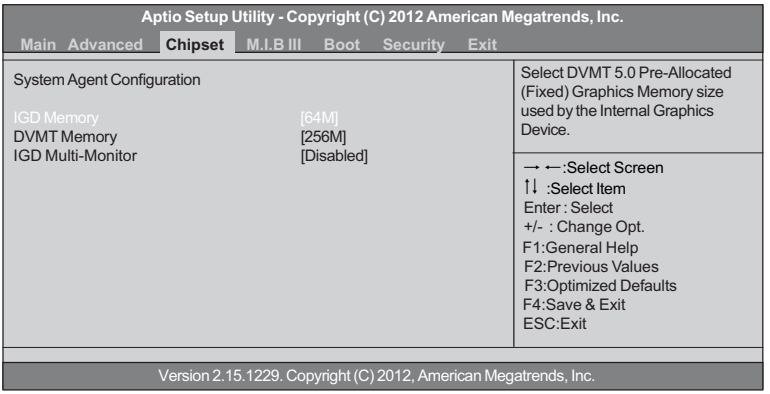
Chipset Menu

The chipset menu items allow you to change the settings for the North Bridge chipset, South Bridge chipset and other system.



▶ System Agent Configuration

Scroll to this item and press <Enter> and view the following screen:


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
System Agent Configuration
IGD Memory [64M]
DVMT Memory [256M]
IGD Multi-Monitor [Disabled]
Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

IGD Memory (64M)

This item shows the information of the IGD (Internal Graphics Device) memory.

DVMT Memory (256M)

When set to Fixed Mode, the graphics driver will reserve a fixed position of the system memory as graphics memory, according to system and graphics requirements.

IGD Multi-Monitor (Disabled)

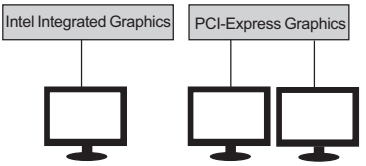
This item enables or disables IGD (Internal Graphics device) multi-monitor.

Press <Esc> to return to the Chipset Menu page.

Multi-Monitor technology

Multi-Monitor technology can help you to increase the area available for programs running on a single computer system through using multiple display devices.

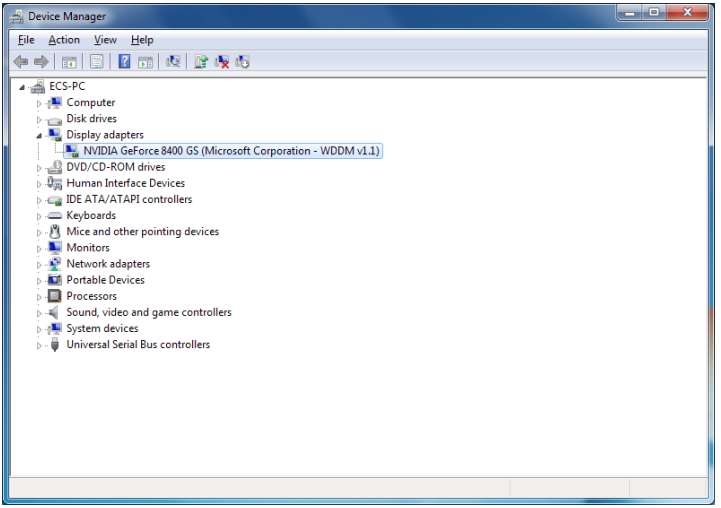
It is not only to increase larger screen viewing but aslo to improving personal productivity.



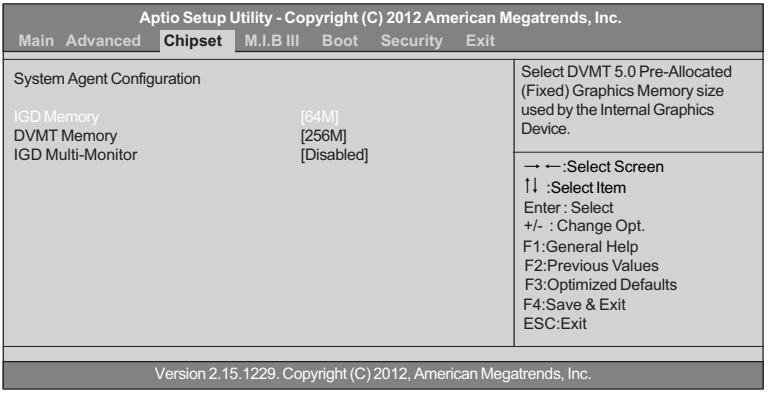
Please note that Multi-Monitor technology supports up to three monitors: one Intel integrated Graphics and one or two PCI-Express graphics devices under Windows 7/8.

Step 1. Insert ECS drives DVD to run Auto setup or browse the DVD to install Intel chipset drivers, VGA and sound drivers.(If you want know the detail information, please refer to chapter 4.)

Step 2. Install all the drivers of PCI-Express graphic cards. Click the Browse CD item, then appears the following screen. Select the driver you want to install(e.g NVIDIA GeForce 8400 GS(Microsoft Corporation-WDDM v1.1)) and double click it.

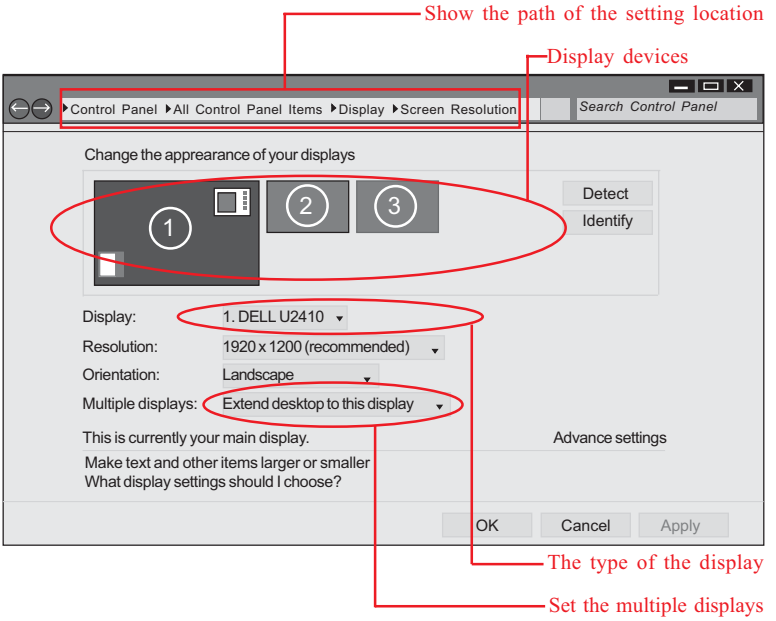


Step 3. Enable IGD Multi-Monitor from BIOS. In the following BIOS screen, please set IGD Multi-Monitor to [Enabled].

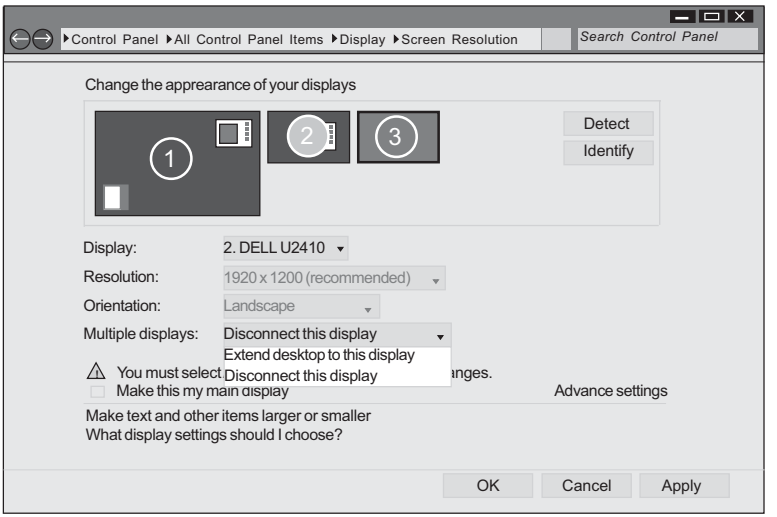

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
System Agent Configuration
IGD Memory [64M]
DVMT Memory [256M]
IGD Multi-Monitor [Disabled]
Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

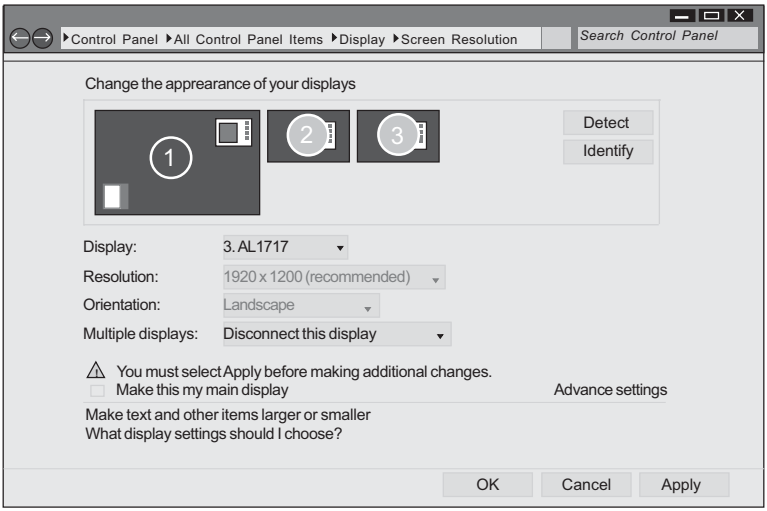
Step 4. Change the appearance of your displays under Windows 7/8.

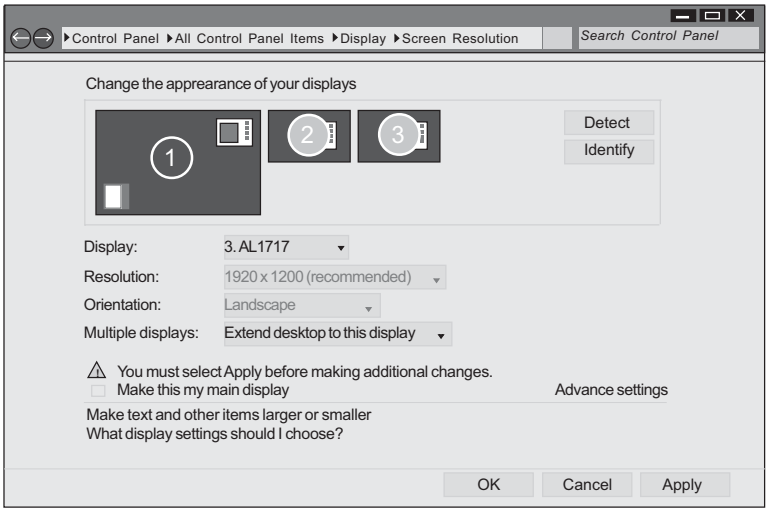
1. Enter the Control Panel menu, select the Display in the All Control Panel Items and click the Screen Resolution, then appears the following screen.



2.Select display devices, set the multiple displays option and to extend destop for display “Multi-Monitor technology”.

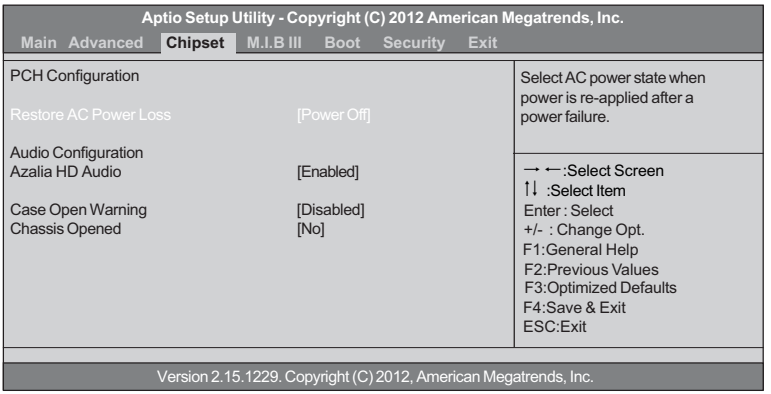



Control Panel ▸ All Control Panel Items ▸ Display ▸ Screen Resolution
Search Control Panel
Change the appearance of your displays
1
2
3
Detect
Identify
Display: 3. AL1717
Resolution: 1920 x 1200 (recommended)
Orientation: Landscape
Multiple displays: Disconnect this display
You must select Apply before making additional changes.
Make this my main display
Advance settings
Make text and other items larger or smaller
What display settings should I choose?
OK
Cancel
Apply


Control Panel ▸ All Control Panel Items ▸ Display ▸ Screen Resolution
Search Control Panel
Change the appearance of your displays
1
2
3
Detect
Identify
Display: 3. AL1717
Resolution: 1920 x 1200 (recommended)
Orientation: Landscape
Multiple displays: Extend desktop to this display
You must select Apply before making additional changes.
Make this my main display
Advance settings
Make text and other items larger or smaller
What display settings should I choose?
OK
Cancel
Apply

►PCH Configuration

Scroll to this item and press <Enter> to view the following screen:


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
PCH Configuration
Restore AC Power Loss [Power Off]
Audio Configuration
Azalia HD Audio [Enabled]
Case Open Warning [Disabled]
Chassis Opened [No]
Select AC power state when power is re-applied after a power failure.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

Restore AC Power Loss (Power Off)

This item enables your computer to automatically restart or return to its operating status.

Audio Configuration

This item shows the information of the audio configuration.

Azalia HD Audio (Enabled)

This item enables or disables Azalia HD audio.

Case Open Warning (Disabled)

This item enables or disables the warning if the case is opened up, and the item below indicates the current status of the case.

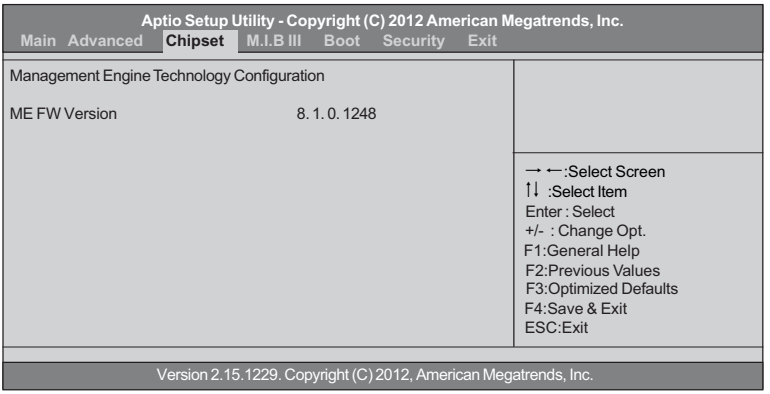
Chassis Opened (No)

This item indicates whether the case has been opened.

Press <Esc> to return to the Chipset Menu page.

▶ ME Configuration

Scroll to this item and press <Enter> to view the following screen:


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
Management Engine Technology Configuration
ME FW Version 8. 1. 0. 1248
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

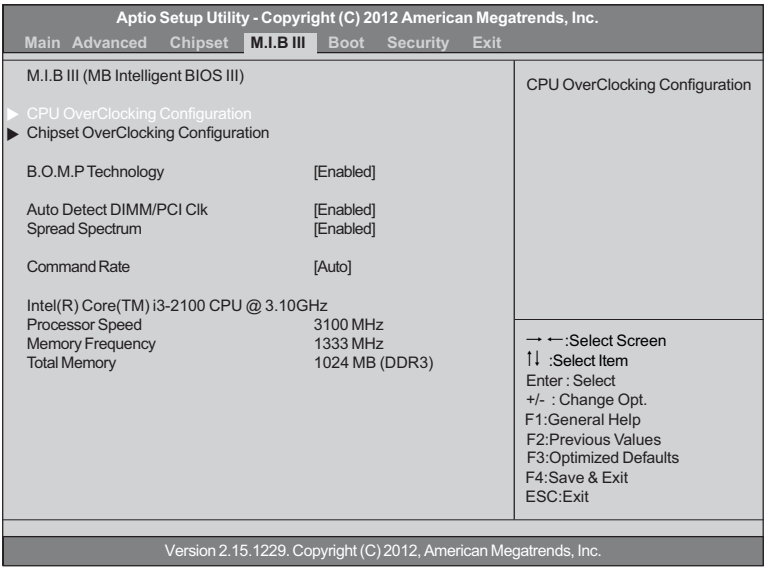
ME FW Version (8.1.0.1248)

This item shows the ME FW version.

Press <Esc> to return to the Chipset Menu page.

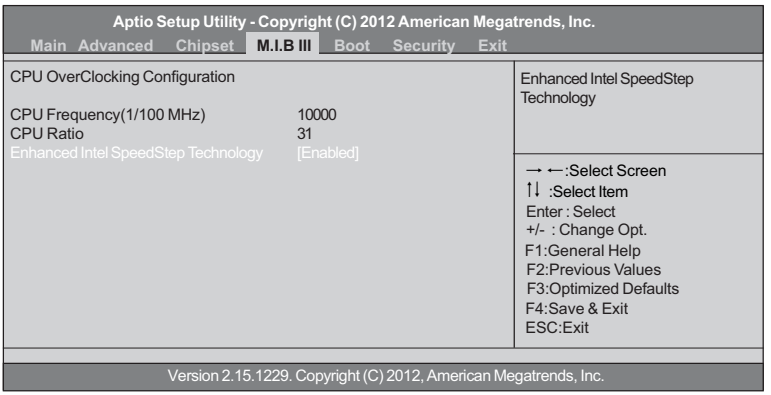
M.I.B III (MB Intelligent BIOS III) Menu

This page enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
M.I.B III (MB Intelligent BIOS III)
▶ CPU OverClocking Configuration
▶ Chipset OverClocking Configuration
B.O.M.P Technology [Enabled]
Auto Detect DIMM/PCI Clk [Enabled]
Spread Spectrum [Enabled]
Command Rate [Auto]
Intel(R) Core(TM) i3-2100 CPU @ 3.10GHz
Processor Speed 3100 MHz
Memory Frequency 1333 MHz
Total Memory 1024 MB (DDR3)
CPU OverClocking Configuration
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

▶CPU OverClocking Configuration

Scroll to this item to view the following screen:


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
CPU OverClocking Configuration
CPU Frequency(1/100 MHz) 10000
CPU Ratio 31
Enhanced Intel SpeedStep Technology [Enabled]
Enhanced Intel SpeedStep Technology
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

CPU Frequency(1/100 MHz) (10000)

This item shows the information of CPU Frequency.

CPU Ratio (31)

This item allows users to control non turbo CPU ratio.

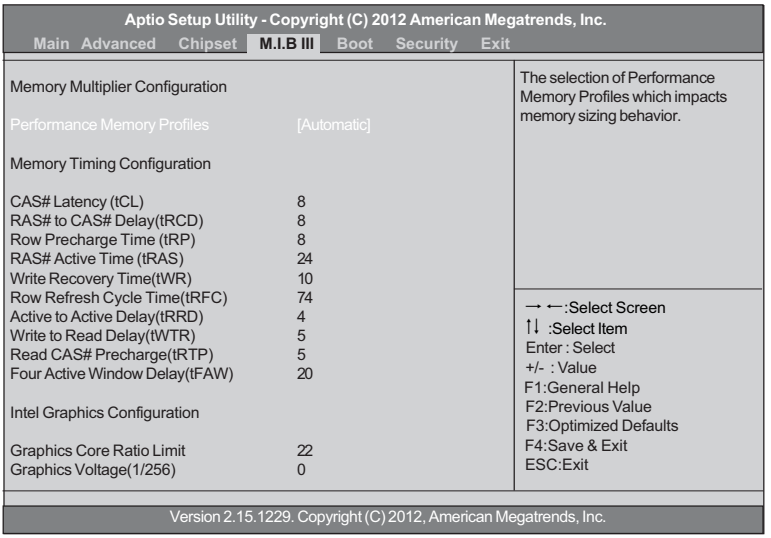
Enhanced Intel SpeedStep Technology (Enabled)

This item allows users to enable or disable the EIST (Enhanced Intel SpeedStep Technology).

Press <Esc> to return to the M.I.B III Menu page.

▶Chipset OverClocking Configuration

Scroll to this item to view the following screen:


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
Memory Multiplier Configuration
Performance Memory Profiles [Automatic]
Memory Timing Configuration
CAS# Latency (tCL) 8
RAS# to CAS# Delay(tRCD) 8
Row Precharge Time (tRP) 8
RAS# Active Time (tRAS) 24
Write Recovery Time(tWR) 10
Row Refresh Cycle Time(tRFC) 74
Active to Active Delay(tRRD) 4
Write to Read Delay(tWTR) 5
Read CAS# Precharge(tRTP) 5
Four Active Window Delay(tFAW) 20
Intel Graphics Configuration
Graphics Core Ratio Limit 22
Graphics Voltage(1/256) 0
The selection of Performance Memory Profiles which impacts memory sizing behavior.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Value
F1:General Help
F2:Previous Value
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

Memory Multiplier Configuration

This item shows the information of Memory Multiplier Configuration.

Performance Memory Profiles (Automatic)

This item allows you to select the memory mode: Automatic, Manual, XMP Profile 1 or 2.

Memory Timing Configuration

This item shows the information of Memory Timing Configuration.

CAS# Latency(tcl) (8)

This item determines the operation of DDR SDRAM memory CAS (colulmn address strobe). It is recommended that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.

RAS# to CAS# Delay(tRD) (8)

This item specifies the RAS# to CAS# delay to Rd/Wr command to the same bank.

Row Precharge Time(tRP) (8)

This item specifies Row precharge to Active or Auto-Refresh of the same bank.

RAS# Active Time(tRAS) (24)

This item specifies the RAS# active time.

Write Recovery Time(tWR) (10)

This item specifies the write recovery time.

Row Refresh Cycle Time(tRFC) (74)

This item specifies the row refresh cycle time.

Active to Active Delay(tRRD) (4)

This item controls the ACTIVE bank x to ACTIVE bank y delay in memory clock cycles.

Write to Read Delay(tWTR) (5)

This item specifies the write to read delay time.

Read CAS# Precharge(tRTP) (5)

This item controls the Read to PRECHARGE delay for memory devices, in memory clock cycles.

Four Active Window Delay(tFAW) (20)

This item controls the four bank activate time in memory clock cycles.

Intel Graphics Configuration

This item shows the information of Intel Graphics Configutation.

Graphics Core Ratio Limit (22)

This item allows you to control the internal GFX Turbo ratio.

Graphics Voltage(1/256) (0)

This item allows you to adjust the internal GFX Voltage.

Press <Esc> to return to the M.I.B III Menu page.

B.O.M.P Technology (Enabled)

This item allows users to enable or disable B.O.M.P technology. This function can run safe setting to setup menu when system boot fail 3 times.

Auto Detect DIMM/PCI Clk (Enabled)

When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

Spread Spectrum (Enabled)

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

Intel(R) Core(TM) i3-2100 CPU @ 3.10GHz

This is display-only field and displays the information of the CPU installed in your computer.

Processor Speed (3100 MHz)

This item shows the CPU speed.

Memory Frequency (1333 MHz)

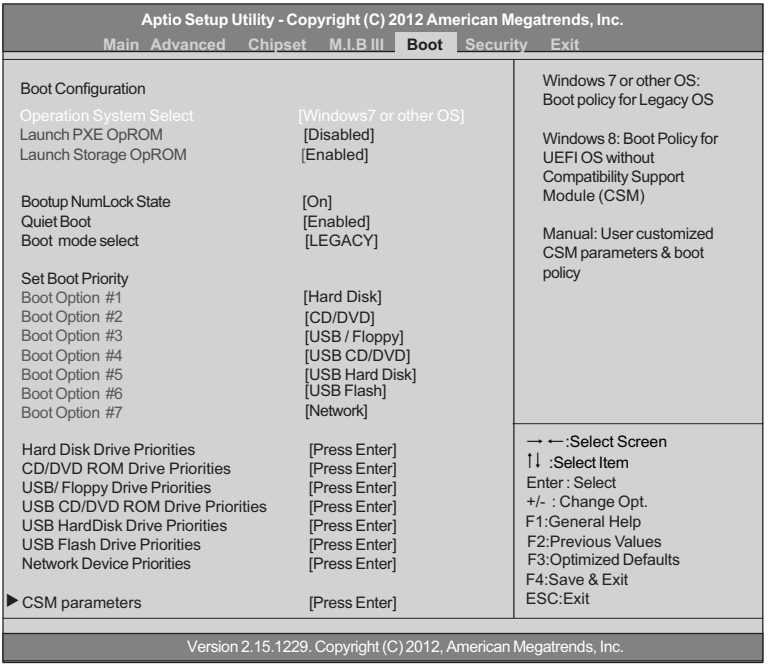
This item shows the memory frequency.

Total Memory (1024 MB(DDR3))

This item shows the total momery of DDR3.

Boot Menu

This page enables you to set the keyboard NumLock state.


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
Boot Configuration
Operation System Select [Windows7 or other OS]
Launch PXE OpROM [Disabled]
Launch Storage OpROM [Enabled]
Bootup NumLock State [On]
Quiet Boot [Enabled]
Boot mode select [LEGACY]
Set Boot Priority
Boot Option #1 [Hard Disk]
Boot Option #2 [CD/DVD]
Boot Option #3 [USB / Floppy]
Boot Option #4 [USB CD/DVD]
Boot Option #5 [USB Hard Disk]
Boot Option #6 [USB Flash]
Boot Option #7 [Network]
Hard Disk Drive Priorities [Press Enter]
CD/DVD ROM Drive Priorities [Press Enter]
USB/ Floppy Drive Priorities [Press Enter]
USB CD/DVD ROM Drive Priorities [Press Enter]
USB HardDisk Drive Priorities [Press Enter]
USB Flash Drive Priorities [Press Enter]
Network Device Priorities [Press Enter]
▶ CSM parameters [Press Enter]
Windows 7 or other OS: Boot policy for Legacy OS
Windows 8: Boot Policy for UEFI OS without Compatibility Support Module (CSM)
Manual: User customized CSM parameters & boot policy
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

Boot Configuration

This item shows the information of the Boot Configuration.

Operation System Select (Windows7 or other OS)

This item is used to select the operation system.

Launch PXE OpROM (Disabled)

The item enables or disables launch PXE Option ROM.

Launch Storage OpROM (Enabled)

The item enables or disables launch Storage Option ROM.

Bootup NumLock State (On)

This item enables you to select NumLock state.

Quiet Boot (Enabled)

This item enables or disables quiet boot.

Boot mode select (LEGACY)

Use this item to select boot mode.

Set Boot Priority

This item enables you to set boot priority for all boot devices.

Boot Option #1/2/3/4/5/6/7

These items show the boot priorities.

Hard Disk / CD/DVD ROM / USB Floppy / USB CD/DVD ROM / USB HardDisk / USB Flash / Network Boot Drive Priorities

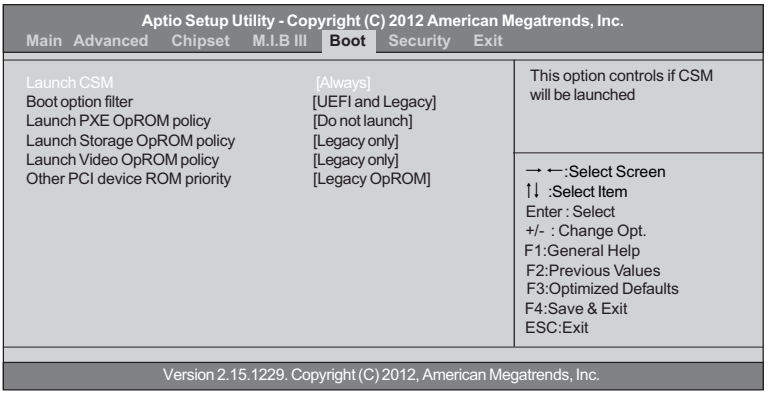
These items enable you to specify the sequence of loading the operating system. Press <Enter> to see the submenu.

CSM parameters

OpROM execution, boot options filter,etc.

► CSM parameters

Scroll to this item and press <Enter> to view the following screen.


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
Launch CSM [Always]
Boot option filter [UEFI and Legacy]
Launch PXE OpROM policy [Do not launch]
Launch Storage OpROM policy [Legacy only]
Launch Video OpROM policy [Legacy only]
Other PCI device ROM priority [Legacy OpROM]
This option controls if CSM will be launched
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

Launch CSM

This option controls if CSM will be launched.

Boot option filter

This option controls what devices system can boot to.

Launch PXE OpROM policy

This controls the execution of UEFI and Legacy PXE OpROM.

Launch Storage OpROM policy

This controls the execution of UEFI and Legacy Storage OpROM.

Launch Video OpROM policy

This controls the execution of UEFI and Legacy Video OpROM.

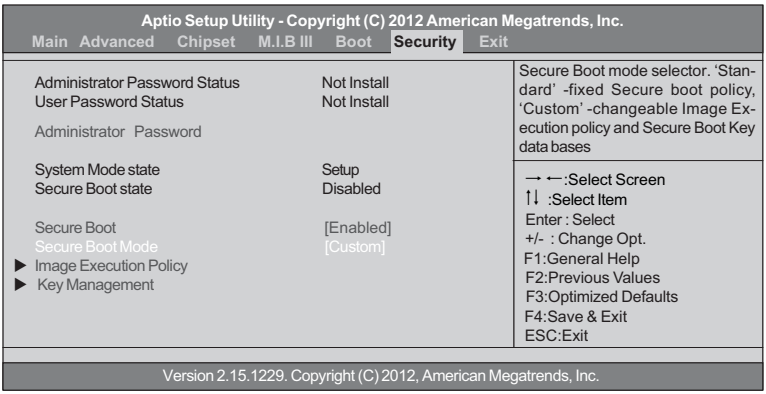
Other PCI device ROM priority

For PCI devices other than Network, Mass storage or Video defines which OpROM to launch.

Press <Esc> to return to the Boot Menu page.

Security Menu

This page enables you to set setup administrator password and user password.


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
Administrator Password Status Not Install
User Password Status Not Install
Administrator Password
System Mode state Setup
Secure Boot state Disabled
Secure Boot [Enabled]
Secure Boot Mode [Custom]
▶ Image Execution Policy
▶ Key Management
Secure Boot mode selector. 'Standard' -fixed Secure boot policy, 'Custom' -changeable Image Execution policy and Secure Boot Key data bases
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
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Administrator Password Status (Not Install)

This item shows administrator password installed or not.

User Password Status (Not Install)

This item shows user password installed or not.

System Mode state (Setup)

This item shows system mode setup or not.

Secure Boot state (Disabled)

This item allows you to enable or disable the secure boot state.

Secure Boot (Enabled)

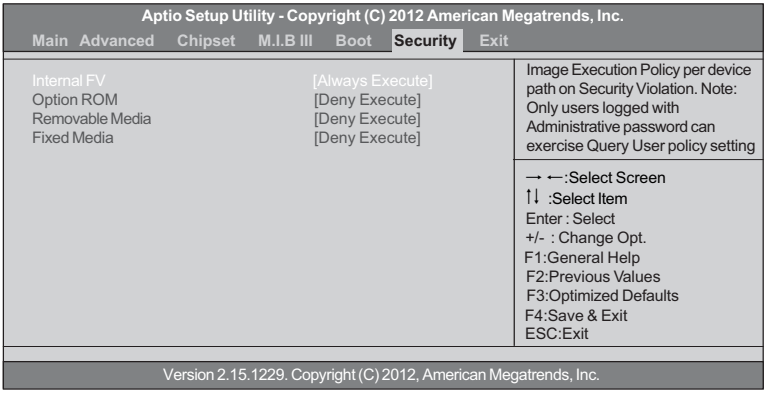
This item is used to control the secure boot flow, it is possible only if system runs in User Mode.

Secure Boot Mode (Custom)

This item is used to select secure boot mode, when you select standard mode, secure boot policy is fixed; when you select custom mode, the image execution policy and secure boot key databases are changeable.

► **Image Execution Policy**

Scroll to this item to view the following screen:


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
Internal FV [Always Execute]
Option ROM [Deny Execute]
Removable Media [Deny Execute]
Fixed Media [Deny Execute]
Image Execution Policy per device path on Security Violation. Note: Only users logged with Administrative password can exercise Query User policy setting
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

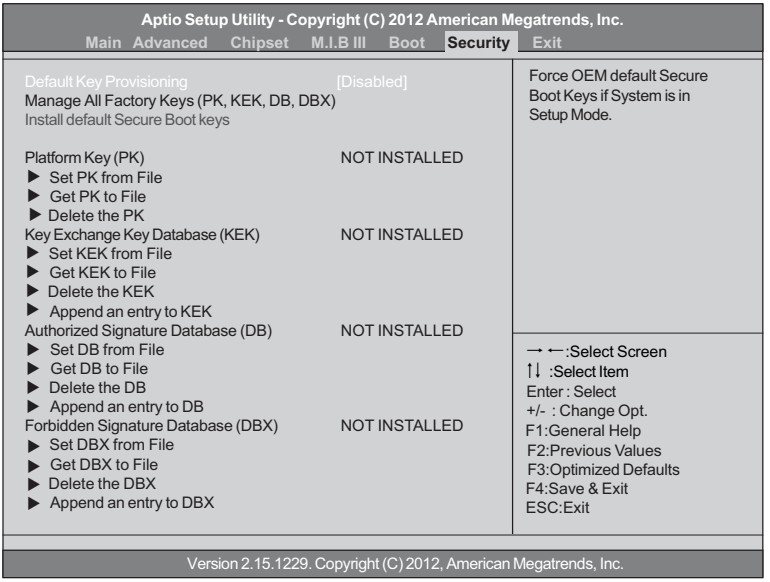
Internal FV/Option ROM/Removable Media/Fixed Media (Always Execute/ Deny Execute)

These items allow you to select image execution policy per device path on security violation. Only users logged with administrative password can exercise query user policy setting.

Press <Esc> to return to the Security Menu page.

▶ **Key Management**

Scroll to this item to view the following screen:


Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Chipset M.I.B III Boot Security Exit
Default Key Provisioning [Disabled]
Manage All Factory Keys (PK, KEK, DB, DBX)
Install default Secure Boot keys
Platform Key (PK) NOT INSTALLED
▶ Set PK from File
▶ Get PK to File
▶ Delete the PK
Key Exchange Key Database (KEK) NOT INSTALLED
▶ Set KEK from File
▶ Get KEK to File
▶ Delete the KEK
▶ Append an entry to KEK
Authorized Signature Database (DB) NOT INSTALLED
▶ Set DB from File
▶ Get DB to File
▶ Delete the DB
▶ Append an entry to DB
Forbidden Signature Database (DBX) NOT INSTALLED
▶ Set DBX from File
▶ Get DBX to File
▶ Delete the DBX
▶ Append an entry to DBX
Force OEM default Secure Boot Keys if System is in Setup Mode.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.15.1229. Copyright (C) 2012, American Megatrends, Inc.

Default Key Provisioning (Disabled)

This item enables or disables you to force OEM default secure boot keys if system is in setup mode.

Platform Key (PK)

This item shows the information of the platform key.

Set PK/KEK/DB/DBX from File

This item launches the file browser to set Efi Variable from the file. The file data must be formatted as Efi Variable with TimeBased Authenticated Header.

Get PK/KEK/DB/DBX to File

This item is used to store secure variable to a file with a matching name in selected file system's root.

Delete the PK/KEK/DB/DBX

This item is used to delete the variable.

Key Exchange Key Database (KEK)

This item shows the information of the key exchange key database.

Authorized Signature Database (DB)

This item shows the information of the authorized signature database.

Forbidden Signature Database (DBX)

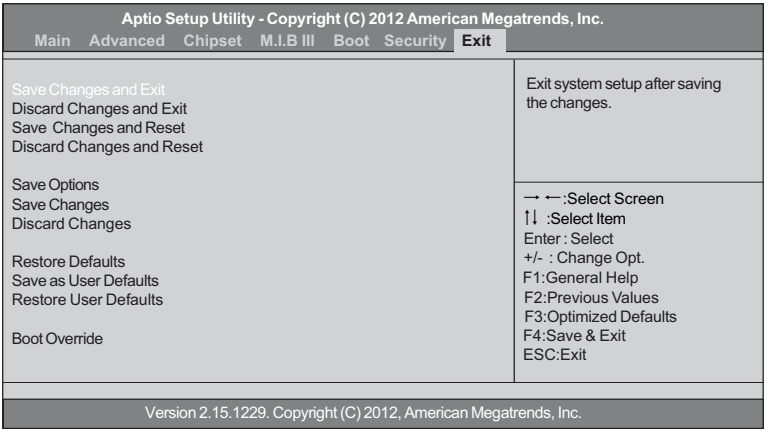
This item shows the information of the forbidden signature database.

Append an entry to KEK/DB/DBX

This item launches the file browser to Append new signature database from the file. The file data must be formatted as Efi Variable with TimeBased Authenticated Header.

Exit Menu

This page enables you to exit system setup after saving or without saving the changes.



Save Changes and Exit

This item enables you to save the changes that you have made and exit.

Discard Changes and Exit

This item enables you to discard any changes that you have made and exit.

Save Changes and Reset

This item enables you to save the changes that you have made and reset.

Discard Changes and Reset

This item enables you to discard any changes that you have made and reset.

Save Options

This item enables you to save the options that you have made.

Save Changes

This item enables you to save the changes that you have made.

Discard Changes

This item enables you to discard any changes that you have made.

Restore Defaults

This item enables you to restore the system defaults.

Save as User Defaults

This item enables you to save the changes that you have made as user defaults.

Restore User Defaults

This item enables you to restore user defaults.

Boot Override

Use this item to select the boot device.

Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

1. If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
3. Prepare a bootable device or create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the bootable device.
5. Turn off your computer and insert the bootable device in your computer. (You might need to run the Setup Utility and change the the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the bootable device first.)
6. At the C:\ or A:\ prompt, type the Flash Utility program name and the file name of the new BIOS and then press <Enter>. Example: AFUDOS.EXE 040706.ROM
7. When the installation is complete, remove the bootable device from the computer and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten. The computer will restart automatically.

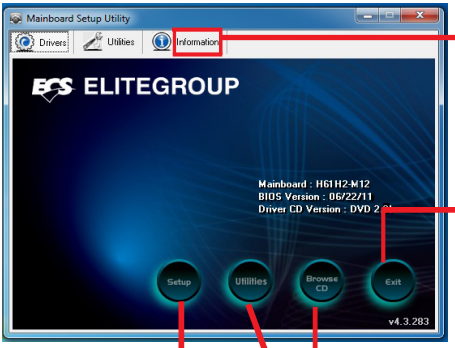
This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

Memo

Chapter 4
Using the Motherboard Software

Auto-installing under Windows XP/7/8

The auto-install DVD-ROM makes it easy for you to install the drivers and software. The support software DVD-ROM disc loads automatically under Windows XP/7/8. When you insert the DVD-ROM disc in the DVD-ROM drive, the auto-run feature will automatically bring up the installation screen. The screen has four buttons on it: **Setup**, **Utilities**, **Browse CD** and **Exit**.



Information:
Displays the path for all software and drivers available on the disk.

Click "**Exit**" button to close the Auto-Setup window.

Browse CD:
Open Windows Explorer and show the contents of the support disk.

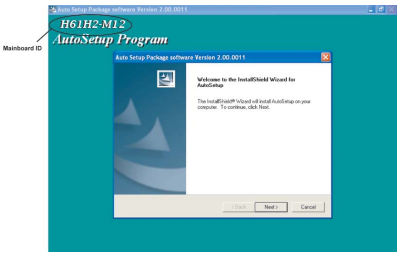
Click the "**Setup**" button to select and run the software installation program.

Click the " **Utilities**" button to select and install ECS Intelligent Utility.

Running Setup

Follow these instructions to install device drivers and software for the motherboard:

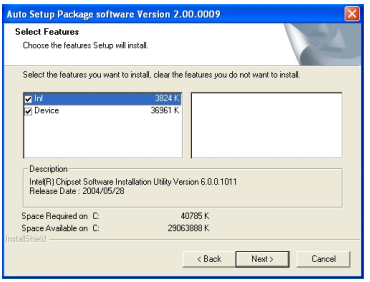
1. Click **Setup**. The installation program begins:



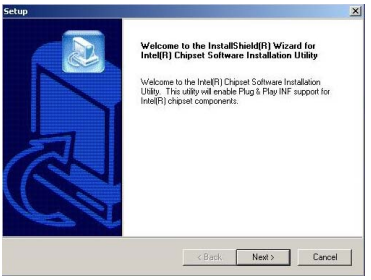
The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

The motherboard identification is located in the upper left-hand corner.

2. Click **Next.** The following screen appears:


Auto Setup Package software Version 2.00.0009
Select Features
Choose the features Setup will install.
Select the features you want to install, clear the features you do not want to install.
Inf 3824 K
Device 36961 K
Description
Intel(R) Chipset Software Installation Utility Version 6.0.0.1011
Release Date : 2004/05/28
Space Required on C: 40785 K
Space Available on C: 29063888 K
InstallShield
< Back
Next >
Cancel

3. Check the box next to the items you want to install. The default options are recommended.
4. Click **Next** to run the Installation Wizard. An item installation screen appears:

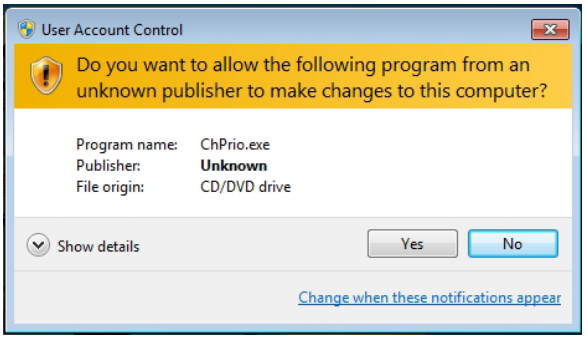

Setup
Welcome to the InstallShield(R) Wizard for Intel(R) Chipset Software Installation Utility
Welcome to the Intel(R) Chipset Software Installation Utility. This utility will enable Plug & Play INF support for Intel(R) chipset components.
< Back
Next >
Cancel

5. Follow the instructions on the screen to install the items.

Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

Windows 8 will show the following screen after system restart, you must select "Desktop" in the bottom left to install the next driver.

Windows 7/8 will appear below UAC (User Account Control) message after the system restart. You must select "Yes" to install the next driver. Continue this process to complete the drivers installation.


User Account Control
Do you want to allow the following program from an unknown publisher to make changes to this computer?
Program name: ChPrio.exe
Publisher: Unknown
File origin: CD/DVD drive
Show details
Yes
No
Change when these notifications appear

Manual Installation

If the auto-install DVD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Look for the chipset and motherboard model, and then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

ECS Utility Software (Intelligent EZ Utility)

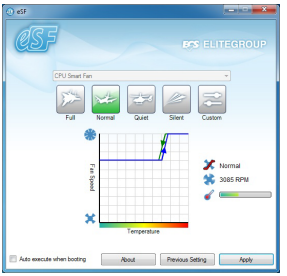
ECS Intelligent EZ Utility provides friendly interfaces under Windows O.S, which makes your computing more easily and conveniently.

These software(s) are subject to change at anytime without prior notice. Please refer to the support disk for available software.

eSF

eSF(Smart Fan) utility provides easy and safe way to adjust fan speed in accordance with your PC's system loading and temperature.

It has five modes to adjust fan speed in a safe range without entering the BIOS to optimize your system cooling environment.



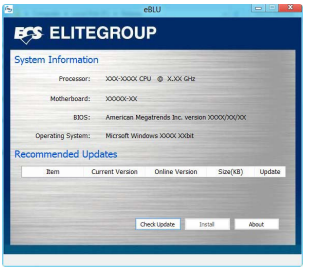
Microsoft .NET Framework 3.5 is required.

eDLU

ECS eDLU utility makes updating drivers fast and easy. eDLU saves time and hassle by listing all the latest drivers online. Just select the one you prefer and start to download and install the drivers.

eBLU

ECS eBLU utility makes BIOS update faster and easier. eBLU will list the latest BIOS with a default check-mark. Click"install" button to install.



Microsoft .NET Framework 3.5 is required.

Chapter 5
Trouble Shooting

Start up problems during assembly

After assembling the PC for the first time you may experience some start up problems. Before calling for technical support or returning for warranty, this chapter may help to address some of the common questions using some basic troubleshooting tips.

a) System does not power up and the fans are not running.

1.Disassemble the PC to remove the VGA adaptor card, DDR memory, LAN, USB and other peripherals including keyboard and mouse. Leave only the motherboard, CPU with CPU cooler and power supply connected. Turn on again to see if the CPU and power supply fans are running.

2. Make sure to remove any unused screws or other metal objects such as screwdrivers from the inside PC case. This is to prevent damage from short circuit.

3. Check the CPU FAN connector is connected to the motherboard.

4. For Intel platforms check the pins on the CPU socket for damage or bent. A bent pin may cause failure to boot and sometimes permanent damage from short circuit.

5. Check the 12V power connector is connected to the motherboard.

6. Check that the 12V power & ATX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.

b) Power is on, fans are running but there is no display

1. Make sure the monitor is turned on and the monitor cable is properly connected to the PC.

2. Check the VGA adapter card (if applicable) is inserted properly.

3. Listen for beep sounds. If you are using internal PC speaker make sure it is connected.
   a. continuous 3 short beeps: memory not detected
   b. 1 long beep and 8 short beeps: VGA not detected

c) The PC suddenly shuts down while booting up.

1. The CPU may experience overheating so it will shutdown to protect itself. Ensure the CPU fan is working properly.

2. From the BIOS setting, try to disable the Smartfan function to let the fan run at default speed. Doing a Load Optimised Default will also disable the Smartfan.

Start up problems after prolong use

After a prolong period of use your PC may experience start up problems again. This may be caused by breakdown of devices connected to the motherboard such as HDD, CPU fan, etc. The following tips may help to revive the PC or identify the cause of failure.

1. Clear the CMOS values using the CLR_CMOS jumper. Refer to CLR_CMOS jumper in Chapter 2 for Checking Jumper Settings in this user manual. When completed, follow up with a Load Optimised Default in the BIOS setup.

2. Check the CPU cooler fan for dust. Long term accumulation of dust will reduce its effectiveness to cool the processor. Clean the cooler or replace a new one if necessary.

3. Check that the 12V power & ATX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.

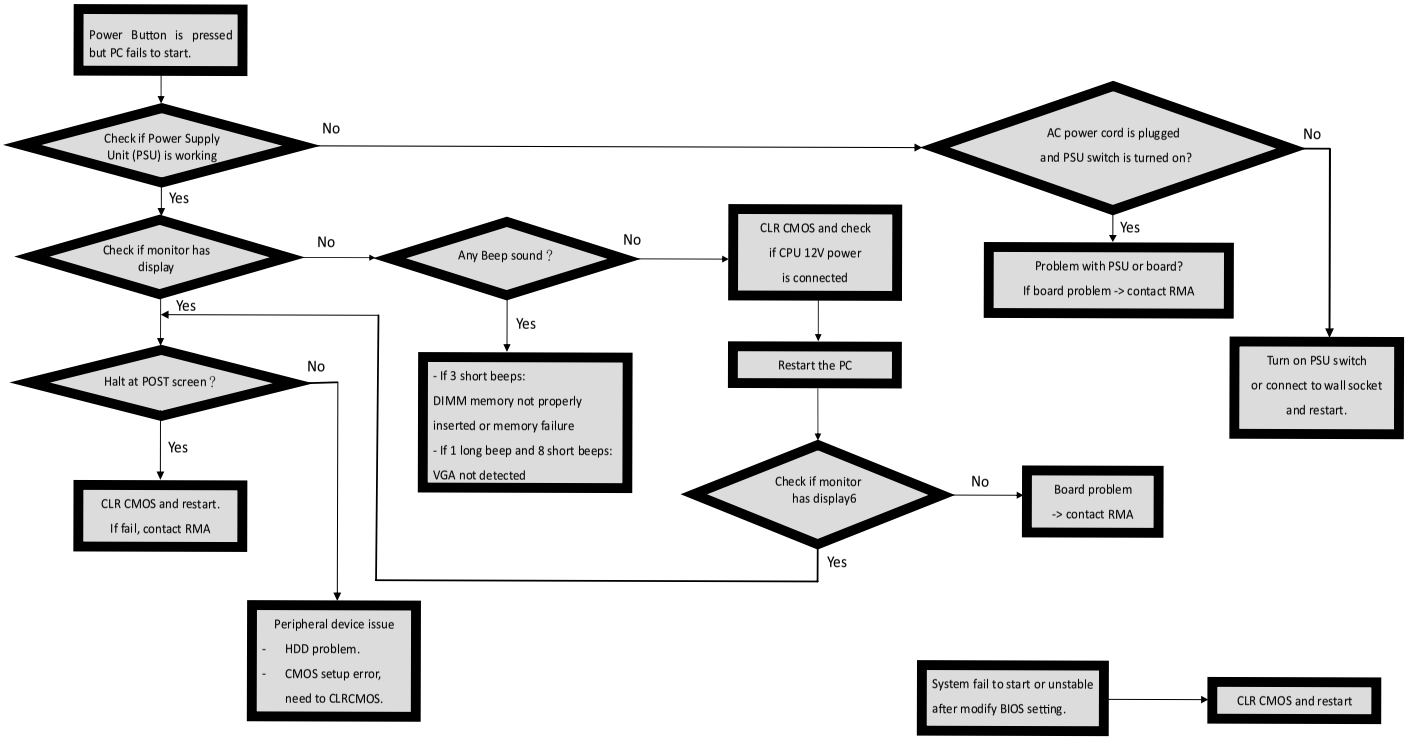
4. Remove the hard drive, optical drive or DDR memory to determine which of these components may be at fault.

Maintenance and care tips

Your computer, like any electrical appliance, requires proper care and maintenance. Here are some basic PC care tips to help prolong the life of the motherboard and keep it running as best as it can.

1. Keep your computer in a well ventilated area. Leave some space between the PC and the wall for sufficient airflow.
2. Keep your computer in a cool dry place. Avoid dusty areas, direct sunlight and areas of high moisture content.
3. Routinely clean the CPU cooler fan to remove dust and hair.
4. In places of hot and humid weather you should turn on your computer once every other week to circulate the air and prevent damage from humility.
5. Add more memory to your computer if possible. This not only speeds up the system but also reduces the loading of your hard drive to prolong its life span.
6. If possible, ensure the power cord has an earth ground pin directly from the wall outlet. This will reduce voltage fluctuation that may damage sensitive devices.

Basic Troubleshooting Flowchart


Power Button is pressed but PC fails to start.
Check if Power Supply Unit (PSU) is working
No
Yes
AC power cord is plugged and PSU switch is turned on?
No
Yes
Problem with PSU or board? If board problem -> contact RMA
Turn on PSU switch or connect to wall socket and restart.
Check if monitor has display
No
Yes
Any Beep sound ?
No
Yes
- If 3 short beeps: DIMM memory not properly inserted or memory failure
- If 1 long beep and 8 short beeps: VGA not detected
CLR CMOS and check if CPU 12V power is connected
Restart the PC
Check if monitor has display6
No
Yes
Board problem -> contact RMA
Halt at POST screen ?
No
Yes
CLR CMOS and restart. If fail, contact RMA
Peripheral device issue
- HDD problem.
- CMOS setup error, need to CLRCMOS.
System fail to start or unstable after modify BIOS setting.
CLR CMOS and restart

Memo